Endangered Black Harriers (Circus maurus) in South Africa: What Have We Learned and Where Should We be Moving Forward for its Sustainable Conservation?

MARIE-SOPHIE GARCIA-HERAS (ms.garciaheras@oregonstate.edu), Oregon State University, Department of Forest Ecosystems and Society, Corvallis, OR, U.S.A. & FitzPatrick Institute of African Ornithology, DST/NRF Centre of Excellence, University of Cape Town, Rondebosch, South Africa.
BEATRIZ ARROYO, Instituto de Investigación en Recursos Cinegéticos, IREC (CSIC-UCLM-JCCM), Ciudad Real, Spain.
FRANCOIS MOUGEOT, Instituto de Investigación en Recursos Cinegéticos, IREC (CSIC-UCLM-JCCM), Ciudad Real, Spain.
ROBERT E. SIMMONS, Fitz Patrick Institute of African Ornithology, DST/NRF Centre of Excellence, University of Cape Town, Rondebosch, South Africa.

The Black Harrier is a medium-sized bird of prey endemic to southern Africa. Its population has been estimated at less than 1,000 breeding individuals, and the species has recently been upgraded to Endangered by the IUCN Red List. This ground-nesting raptor only breeds in native vegetation, primarily along the south-western South African coast. A decline of the population has been suspected throughout the last four decades, but until recently, the reasons for Black Harrier's scarcity have remained insufficiently explored. Filling this knowledge gap, by investigating Black Harriers' inter-annual requirements, was therefore essential for a sustainable conservation of the species. Using data collected throughout the 2000-2015 breeding seasons we specifically investigated the spatial-temporal variations of breeding phenology and success (n=402 nests), diet composition, and the relationship between those parameters. We also used an eco-toxicological and ecophysiological approach to assess environmental contamination (i.e. PCBs and DDT) in blood of adults (n=23) and nestlings (n=90), in wild individuals, relating contamination levels to habitat characteristics and diet composition. Finally, 13 adults were trapped during 2008- 2015 breeding seasons and were fitted either with a GPSGSM or with a PTT tracker device. The monitoring of those birds for 365 ± 198 d (range: 56-819 d) revealed, for the first time, Black Harrier's migratory patterns, settlement areas and habitat use during the breeding and nonbreeding seasons. Despite all of the above, an urgent need still remains to obtain further information on threats throughout Black Harriers' entire annual-cycle, notably by better defining the causes of mortality (84.6% of the death of tagged adults occurred either during migration or during the non-breeding season), and by assessing juvenile survival for population recruitment, with the ultimate goal of ensuring a sustainable conservation of this endangered species.